

Listing of the Claims:

1. (Currently amended) A battery comprising:
a bipolar electrode stack comprising:
a collector,
a cathode electrically connected to a first side of the collector,
an anode electrically connected to a second side of the collector, and
one or more layers of liquid electrolyte overlaying the cathode and anode,
wherein the collector comprises a high-polymer material containing a plurality of electrically
conductive particles, ~~wherein the high-polymer comprises one or more of polyethylene~~
~~terephthalate, polyimide and polyamide, and wherein the cathode and anode directly contact at~~
least a portion of a surface of the high-polymer material of the collector, and wherein the
plurality of electrically conductive particles comprises a first and second type of electrically
conductive particles, wherein the first type contacts the cathode and the second type contacts
the anode.
2. (Canceled)
3. (Previously presented) The battery of claim 1, wherein the electrically
conductive particles are metal particles or carbon particles.
4. – 5. (Canceled).
6. (Currently amended) The battery of claim ~~5~~ 12, wherein the electrically
conductive polymer comprises one or more of poly aniline, polypyrrole, polythiophene,
polyacetylene, polyparaphenylene, poly(phenylene)vinylene, polyacrylonitrile, and
polyoxadiazole.

7. (Previously presented) The battery of claim 1, wherein the high-polymer material exhibits a weight average molecular weight of from about 50,000 Daltons to about 1 million Daltons.

8. (Previously presented) The battery of claim 1, further comprising an electrode extracting plate electrically connected to a side of the collector.

9. (Previously presented) The battery of claim 8, wherein the electrode extracting plate comprises a metal foil.

10. (Currently amended) A battery module comprising:
a plurality of electrically connected bipolar electrode stacks, wherein each of the bipolar electrode stacks comprises a collector, a cathode electrically connected to a first side of the collector, an anode electrically connected to a second side of the collector, and one or more layers of liquid electrolyte overlaying the cathode and anode; wherein the collector of each of the bipolar electrode stacks comprises a high-polymer material of one or more of ~~polyethylene terephthalate, polyimide and polyamide~~ containing a plurality of electrically conductive particles, and wherein the cathode and anode directly contact at least a portion of the high-polymer material of the collector, and wherein the plurality of electrically conductive particles comprises a first and second type of electrically conductive particles, wherein the first type contacts the cathode and the second type contacts the anode.

11. (Previously presented) A battery module according to claim 10, wherein the battery module is mounted on or within a vehicle.

12. (Currently amended) A method for manufacturing a bipolar electrode assembly comprising:

forming a collector by applying a ~~high-polymer material of one or more of~~

~~polyethylene terephthalate, polyimide and polyamide comprising a plurality of electrically conductive particles~~ an electrically conductive polymer in a desired form using an inkjet printing method;

applying a cathode material layer to a first side of the ~~high-polymer material~~ electrically conductive polymer of the collector;

applying an anode material layer to a second side of the ~~high-polymer material~~ electrically conductive polymer of the collector;

applying a first layer of ~~liquid~~ electrolyte overlaying the cathode material layer;
and

applying a second layer of ~~liquid~~ electrolyte overlaying the anode material layer.

13. (Currently amended) The method of claim 12, wherein applying the cathode material layer and anode material layer is carried out using an inkjet printing method.

14. – 15. (Canceled).

16. (Currently amended) The method of claim 12, further comprising curing the ~~high-polymer material~~ electrically conductive polymer.

17. (Canceled).

18. (Previously presented) The method of claim 12, further comprising laminating together the first electrolyte layer, the cathode layer, the collector, the anode layer, and the second electrolyte layer to form a bipolar electrode cell.

19. (Previously presented) The method of claim 18, further comprising:
forming a plurality of bipolar electrode cells in a stack; and electrically connecting each of the

bipolar electrode cells to form a battery.

20. (Previously presented) The method of claim 19, further comprising:
forming a plurality of batteries; and electrically connecting the plurality of batteries to form a
battery module.

21. (Canceled).

22. (New) The battery of claim 1, wherein the high-polymer material
comprises one of polyethylene terephthalate, polyimide and polyamide.

23. (New) The battery module of claim 10, wherein the high-polymer
material comprises one of polyethylene terephthalate, polyimide and polyamide.

24. (New) A battery comprising:
a bipolar electrode stack comprising:
a collector,
a cathode electrically connected to a first side of the collector,
an anode electrically connected to a second side of the collector, and
one or more layers of electrolyte overlaying the cathode and anode,
wherein the collector consists essentially of an electrically conductive polymer, and wherein
the cathode and anode directly contact at least a portion of a surface of the electrically
conductive material of the collector.

25. (New) The battery of claim 24, wherein the electrically conductive
polymer comprises one or more of poly aniline, polypyrrole, polythiophene, polyacetylene,
polyparaphenylene, poly(phenylene)vinylene, polyacrylonitrile, and polyoxadiazole.